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10/585,525	11/29/2006	Richard M. Lange	3253-01	4526

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EXAMINER	
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ART UNIT	PAPER NUMBER
1797	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/585,525	LANGE ET AL.	
	Examiner	Art Unit	
	PAMELA WEISS	1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Allowable Subject Matter

1. Claims 16 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Information Disclosure Statement

2. The information disclosure statement filed July 7, 2006 refers to Deutsche Patent 57961 but does not provide an English translation and further fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. Said reference has been placed in the application file, but the information referred to therein has not been considered.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Hunt (GB 1,026,878)

Regarding Claim 1:

Hunt discloses the reaction product (P2 C1 L9-15) of maleic anhydride (P2 C1 L29-30) with a triglyceride oil such as linseed, soya, cotton seed, and etc. (P1 C2 L54-58) see also Example (P2 C2 L114-120).

Hunt discloses the maleinised linseed oil (i.e. maleated vegetable oil) may be further reacted with water and triethylamine (P3 C1 L18) Hunt also discloses the composition may be reacted with minor proportions of polyhydric alcohols. (P2 L65-68) and may be further reacted with ammonium hydroxide or a volatile organic amine such as triethylamine. (P2 L87-97) (meeting the limitation of Claim 1 b) for various amines, polyols and ammonium hydroxide and water)

5. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Martino et al. (US 5011630)

Regarding Claim 1:

Martino discloses a water dispersible self emulsifiable trigylceride composition (Abstract) comprising:

a) the reaction product of a triglyceride and maleic anhydride (C5 L42 corn oil and maleic anhydride and C2 L29-42 for plant oils and C2 L53 for maleic anhydride and C2 L55-60 reaction of the triglyceride oil and olefinic acid i.e. maleic anhydride)

b) which may be further reacted with a polyalkylene oxide (C3 L53-60) and may be in aqueous emulsion form (i.e. water) (C4 L63)

6. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Blair et al. (US 2,342,113)

Regarding Claim 1

Blair et al. (US 2,342,113) discloses a lubricating oil additive comprising the reaction of maleic anhydride (P1 C2 L24) and a triglyceride such as olive oil, corn oil, cottonseed oil, linseed oil, etc. (P2 L10-30). Blair discloses this reaction product may be further reacted with polyhydric alcohols or polyamines (P3 L36-42).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 1, 2, 5, 7 and 9 are rejected under U.S.C. 103(a) as being unpatentable over Hunt (GB 1,026,878).

Regarding Claim 7:

Hunt discloses the reaction product (P2 C1 L9-15) of maleic anhydride (P2 C1 L29-30) with a triglyceride oil such as linseed, soya, cotton seed, and etc. (P1 C2 L54-58) see also Example (P2 C2 L114-120).

Hunt discloses the malinseed oil (i.e. maleated vegetable oil P2 L114-118) may be further reacted with water and triethylamine (P3 L18) Hunt also discloses the composition may be reacted with minor proportions of polyhydric alcohols. (P2 L65-68) and may be further reacted with ammonium hydroxide or a volatile organic amine such as triethylamine. (P2 L87-97) (meeting the limitation of Claim 1 b) for various amines, polyols and ammonium hydroxide and water)

Hunt further discloses an aqueous solution of the ester triethylamine salt at 1730 pbw with water 1518 pbw and triethylamine 212 pbw (P3 L1-9) and wherein the composition is in an aqueous solution of a base (P3 L20-26) thereby meeting eh limitation for a major amount of water.

The optional additional triglyceride oil is not present.

Regarding Claims 2 and 9:

Hunt discloses the limitations set forth above. Hunt discloses the maleic anhydride to oil may be used in proportions of 5 to 50 parts maleic to 100 parts of oil

(C2 L30-35 and L50-55 wherein 10 to 45% maleic anhydride to oil is used) thereby overlapping the claimed range of an average of 0.1 to 2 mole of succinate groups per mole of triglyceride oil.

Regarding Claim 5:

Hunt discloses the maleated oil be further reacted with ammonium hydroxide or a volatile organic amine such as triethylamine. (P2 L87-97)

11. Claims 3 and 6 are rejected under U.S.C. 103(a) as being unpatentable over Hunt (GB 1,026,878) as applied to claims 1, 2, 5, 7 and 9 above in view of Shahade et al. (US 3,293,201)

Regarding Claims 3 and 6:

Hunt discloses the limitations set forth above. Hunt discloses the maleated oil being reacted with monohydric alcohol (P2 L55) and that the composition is used with a volatile base such as ammonium hydroxide or a volatile organic amine such as triethylamine to increase water solubility (P2 L90-100). Hunt discloses the composition may be used as a coating composition P2 L105-110)

Hunt does not expressly disclose the reaction product further reacted with triethylanolamine.

Shahade discloses an emulsion primer composition (C1 L10-15) which is comprised of a composition similar to that of Hunt. Shahade discloses an adduct of maleic anhydride (C2 L70-73 and a triglyceride such as linseed oil (C2 L19-41). Shahade further discloses the neutralization of the adduct with ammonium hydroxide or

an amine such as triethanolamine. (C3 L33-44 the examiner notes triethanolamine is an alkanolamine meeting the limitation of claim 3)

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the triethanolamine of Shahade as the volatile organic amine of Hunt as it will neutralize the acidity of the linseed maleate and may replace the ammonium hydroxide of Hunt. Further said triethanolamine is a volatile organic amine contemplated by Hunt.

12. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Martino et al. (US 5011630)

Regarding Claim 7:

Martino discloses a water dispersible self emulsifiable triglyceride composition (Abstract) comprising:

a) the reaction product of a triglyceride and maleic anhydride (C5 L42 corn oil and maleic anhydride and C2 L29-42 for plant oils and C2 L53 for maleic anhydride and C2 L55-60 reaction of the triglyceride oil and olefinic acid i.e. maleic anhydride)

b) which may be further reacted with a polyalkylene oxide (C3 L53-60) and may be in aqueous emulsion form (which the examiner maintains meets the limitation for a major amount of water) (C4 L63)

13. Claims 2-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blair et al. (US 2,342,113) as applied to claim 1 above.

Regarding Claim 2:

Blair discloses the limitations set forth above. Blair also disclose the adduct prepared with 300 g of linseed oil and 200 g of maleic anhydride (P2 C2 L66-72 and P3 C1 L5) The examiner maintains that this will result in a range that overlaps the claimed range of an average of 0.1 to 2 mol of succinate groups per mole of triglyceride oil. See MPEP 2144.05(I): "In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976)."

Regarding Claims 3, 5 and 6

Blair discloses the limitations set forth above Blair discloses the reaction product may be treated with ammonium hydroxide or triethanolamine (P3 C1 L55-67) meeting the limitations of claims 3, 5 and 6 for alkanolamine or ammonium hydroxide or triethanolamine

Regarding Claim 4

Blair discloses the limitations set forth above. Blair discloses this reaction product may be further reacted with polyhydric alcohols or polyamines (P3 L36-42).

14. Claims 7-13 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blair et al. (US 2,342,113) as applied to claims 1, and 2-6 above in view of Sturwold (US 4,885,104).

Regarding Claims 7-13 and 19:

Blair et al. (US 2,342,113) discloses the limitations set forth above. Blair discloses a lubricating oil additive comprising the reaction of maleic anhydride (P1 C2 L24) and a triglyceride such as olive oil, corn oil, cottonseed oil, linseed oil, etc. (P2

L10-30). Blair discloses this reaction product may be further reacted with polyhydric alcohols or polyamines (P3 L36-42). Blair discloses the composition is an additive for lubricating oil. And prevents sludge dispersing and has detergent qualities and lessens the corrosion of ferrous metals when applied directly or in the form of solutions in oils or greases. (P3 L1-20).

Blair also disclose the adduct prepared with 300 g of linseed oil and 200 g of maleic anhydride (P2 C2 L66-72 and P3 C1 L5) The examiner maintains that this will result in a range that overlaps the claimed range of an average of 0.1 to 2 mol of succinate groups per mole of triglyceride oil. See MPEP 2144.05(I): "In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976)." Blair discloses the composition may be used with other additives. (P3 C2 L71-74).

Blair does not expressly disclose the composition further comprising a major amount of water or an optional oil or the amounts of the composition in the water and amounts of optional oil. Blair does not expressly disclose the additives of corrosion inhibiting agent, antiwear agent, extreme pressure agent or biocide.

Sturwold discloses a lubricant which is similar to that of Blair. Like Blair, Sturwold composition finds particular utility in lubricants for ferrous metals. (C7 L30-37).

Sturwold discloses a lubricant derived from natural fats and oil useful for metal working and useful in aqueous systems for ferrous metals. (C2 L30-40) Sturwold discloses the lubricant is a reaction product of a triglyceride with a hindered polyol and a

dicarboxylic acid (C3 L30-40). Sturwold discloses the lubricant is formed form a natural fat or oil such as tallow, muttton, canola, palm, soybean, etc. (C3 L60-C4 L10). Sturwold discloses the polyol may be neopentyl glycol (C4 L33) Sturwold discloses the dicarboxylic acid may be an anhydride having 4-6 carbons (C4 L63-65 this would include maleic).

Sturwold discloses the lubricant can be used for a wide variety of lubricating applications and may be used alone or in combination with one or more other lubricant products such as natural or synthetic or petrochemical sources. (C6 L60-C7 L5). Sturwold discloses the blend may contain from 0.1 to 99.of the reaction product and from 99.9% to 0.1% conventional triglyceride or hydrocarbon oil. (C7 L1-10 meeting the limitation for the optional oil and overlapping the claimed range of 1 to 50% optional oil of claim 13 and the limitation of claim 19 for an unreacted triglyceride oil). Sturwold discloses the composition is emulsifiable in water (using 5% of the composition in water meeting the limitation for a major amount of water C13 L65-68) and may be used neat or with a carrier or diluent (C7 L10-15). Sturwold discloses the formulated composition may be based on the reacted triglyceride by itself or the blend of reacted triglyceride with hydrocarbon oil and/or conventional fat or oil. Sturwold discloses the emulsifier will be present from about 0.1 to 15% (C7 L50-55 overlapping the claimed range of 0.5 to about 10 wt% of claim 8) Sturwold discloses the composition may contain additives such as EP additives, corrosion inhibitors, antiwear agents, fungicides, bactericides etc. (C8 L41-50 meeting the limitation of claims 11 and 12).

Sturwold discloses the formulated lubricant composition is typically combined with water to produce aqueous emulsions suitable as rolling oils and provides increased lubricity. (C3 L21-28).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to add the lubricating composition of Blair to a major amount of water and to further add additional unreacted triglycerides or oils in the amounts disclosed by Sturwold along with extreme pressure agent, biocides as disclosed by Sturwold to formulate a lubricant for ferrous metals which will have increased lubricity and since Sturwold discloses such additives are typically combined with water to produce aqueous emulsions.

Regarding Claims 14-15

Modified Blair discloses the limitations set forth above. Blair discloses the composition further reacted with triethanolamine to form corresponding amine salts or esterification (P3 C1 L65-75)

Regarding Claim 17:

Modified Blair discloses the limitations set forth above. Blair discloses the composition further reacted with glyceryl amines (P3 C1 L72 meeting the limitation for an alkanolamine with two alcohol substituent and one alkyl or two alkyl substituents and one alcohol substituent)

Regarding Claim 18:

Modified Blair discloses the limitations set forth above. Blair does not expressly disclose using two reaction products.

Sturwold discloses the composition may comprise more than one natural fat and oil (C3 L55-60) and may be used in combination with one or more other lubricant products. (C7 L1-5) to provide an excellent lubricant for both ferrous and non ferrous metals in a wide variety of lubricating applications.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use a second reaction product in the composition of Modified Blair to provide an excellent lubricant with utility in a wide variety of applications.

15. Claims 1, 2, 7-13 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sturwold (US 4,885,104).

Regarding Claims 1, 2, 7- 13, and 18-19

Sturwold discloses a lubricant derived from natural fats and oil useful for metal working and useful in aqueous systems for ferrous metals. (C2 L30-40) Sturwold discloses the lubricant is a reaction product of a triglyceride with a hindered polyol and a dicarboxylic acid (C3 L30-40). Sturwold discloses the lubricant is formed form a natural fat or oil such as tallow, muttton, canola, palm, soybean, etc. (C3 L60-C4 L10). Sturwold discloses the polyol may be neopentyl glycol (C4 L33) Sturwold discloses the dicarboxylic acid may be an anhydride having 4-6 carbons (C4 L63-65 this would include maleic). Sturwold discloses the reaction may be carried out in a stepwise manner. (C6 L6-11) Case law holds that the selection of any order of mixing ingredients is prima facie obvious. *In re Gibson*, 39 F.2d 975, 5 USPQ 230 (CCPA 1930).

Sturwold discloses the lubricant can be used for a wide variety of lubricating applications and may be used alone or in combination with one or more other lubricant products such as natural or synthetic or petrochemical sources. (C6 L60-C7 L5). Sturwold discloses the blend may contain from 0.1 to 99.of the reaction product and from 99.9% to 0.1% conventional triglyceride or hydrocarbon oil. (C7 L1-10 meeting the limitation for the optional oil and overlapping the claimed range of 1 to 50% optional oil of claim 13 and the limitation of claim 19 for an unreacted triglyceride oil). Sturwold discloses the composition is emulsifiable in water (using 5% of the composition in water meeting the limitation for a major amount of water C13 L65-68) and may be used neat or with a carrier or diluent (C7 L10-15).

Sturwold discloses the formulated composition may be based on the reacted triglyceride by itself or the blend of reacted triglyceride with hydrocarbon oil and/or conventional fat or oil. Sturwold discloses the emulsifier will be present from about 0.1 to 15% (C7 L50-55 overlapping the claimed range of 0.5 to about 10 wt% of claim 8) Sturwold discloses the composition may contain additives such as EP additives, corrosion inhibitors, antiwear agents, fungicides, bactericides etc. (C8 L41-50 meeting the limitation of claims 10-12).

Sturwold discloses the formulated lubricant composition is typically combined with water to produce aqueous emulsions suitable as rolling oils and provides increased lubricity. (C3 L21-28). Sturwold composition finds particular utility in lubricants for ferrous metals. (C7 L30-37).

Sturwold discloses 0.1 to 2 equivalents of polyol per equivalent of natural fat or oil; 0.1 to 2 equivalents of maleic anhydride per equivalent to triglyceride. Sturwold discloses balanced systems and unbalanced systems are equally useful and provide advantageous results. (C5 L57-C6 L2 thereby overlapping the claimed range of 0.1 to 2 mol of succinate groups per mol of triglyceride oil of claims 2 and 9)

Sturwold discloses a single triglyceride or a mixture of triglycerides may be used. (C3 L40-47 meeting the limitation of claim 18 for two reaction products).

16. Claims 3, 6, 15 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sturwold (US 4,885,104) as applied to claims 1 and 7 above in view of Blair (US2342113)

Regarding Claims 3, 6, 15 and 17

Sturwold discloses the limitations set forth above. Sturwold does not disclose the reaction product wherein a triethanol amine is used.

Blair discloses a similar reaction product of maleic anhydride, a natural triglyceride and an amine or a polyhydric alcohol (P3 C2 L40-41) and as set forth above in paragraphs 6 and 13 which are expressly incorporated herein. Blair discloses the maleic anhydride and triglyceride may be reacted with triethanolamine (P3 C1 L65) to remove residual anhydride /carboxy acid groups and to improve oil solubility. (P3 C1 L45-50).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to react the maleic anhydride and triglyceride of Sturwold with a triethanolamine as in Blair to improve oil solubility.

Regarding Claim 18:

Sturwold discloses the limitations set forth above. Sturwold discloses the composition may comprise more than one natural fat and oil (C3 L55-60) and may be used in combination with one or more other lubricant products. (C7 L1-5).

Blair discloses a reaction product of a maleic anhydride, a natural triglyceride and an amine as set forth above in paragraphs 6 and 13 which are expressly incorporated herein. Blair discloses the composition provides an improved lubricating oil. (P3 C2 L51-55) Blair discloses the additive increases resistance to discoloration gumming and provides stability to heat or oxides corrosivity. (P1 C1 L20-26)

It would have been obvious to a person of ordinary skill in the art at the time of the invention to add the reaction product of Blair to the composition of Sturwold to provide corrosion resistance, and resistance to discoloration.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Williamson (US6239298) discloses a lubricity additive or dispersant (C5 L20) formed from the reaction of a triglyceride plant oil (C2 L23-25) and an anhydride such as maleic anhydride (C2 L42) in a molar ration of 1:2 to about 2:1 and further reaction a polyhydroxy compound (i.e. polyol) (C2 L31-34) or a polyamino compound (C2 L32-33) Williamson discloses the composition dissolved in mineral oil at 0.2% y weight and mixed 50:50 with water and emulsified (C11 L60-65 meeting the limitation for a major amount of water).

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to PAMELA WEISS whose telephone number is (571)270-7057. The examiner can normally be reached on Mon.-Thur. 8:00am-6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn A. Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ellen M McAvoy/
Primary Examiner, Art Unit 1797

/pw/